

In The Claims

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1. (Currently Amended) A shock-resistant system for operatively interconnecting circuit cards within a computer system to enable data to be transmitted and received therebetween comprising:

a) a common backplane having a plurality of circuit card connectors disposed in spaced apart relation thereon for supporting circuit cards in a generally upright parallel relationship;

b) a plurality of circuit cards, each of said circuit cards being mounted to one of said circuit card connectors, each of said circuit cards having a transmitter LED and a receiver photodiode formed thereon;

c) an optical pathway formed solely through air between each of said circuit cards, each optical pathway forming a respective independent parallel optical connection between said transmitter LED on one of said circuit cards and said receiver photodiode on any one of said circuit cards; and

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d) wherein said circuit cards are maintained in fixed relationship to one another via said common backplane to maintain continuous optical intercard communications between each of said circuit cards ~~when said circuit cards become intermittently dislodged from electrical connection to said back plane, said intercard communications being conducted independent of shock-susceptible wired connectors~~ such that the LED on each circuit card is operative to generate and transmit a signal, and the photodiode of one corresponding circuit card is operative to receive the signal through the corresponding optical pathway.

2. (Currently Amended) The system of Claim 1 wherein said signals generated by said ~~first and second~~ transmitter LEDs and received by said ~~first and second receiver~~ photodiodes comprise

optically transmitted infrared radiation.

3. (Currently) The system of Claim 2 wherein said transmission and reception of signals between said ~~first and second~~ transmitter LEDs and said ~~first and second~~ receiver photodiodes comprise a standardized infrared communications scheme protocol.

4. (Original) The system of Claim 3 wherein said infrared communications scheme protocol comprises a protocol developed by the Infrared Data Association.

5. (Currently Amended) The system of Claim 1 wherein said ~~first and second~~ circuit cards are housed within an enclosure.

6. (Currently Amended) The system of Claim 1 wherein said ~~first and second modules~~ circuit cards are operative to run an embedded application.

7. (Canceled)

8. (Currently Amended) A method for operatively interconnecting circuit cards within a computer to enable data to be transmitted and received therebetween comprising:


a) forming a common backplane having a plurality of circuit card connectors disposed in spaced apart relation thereon for supporting circuit cards in a generally parallel upright relationship;

b) providing a plurality of circuit cards each having a transmitter LED diode and a receiver photodiode formed thereon;

c) mounting said circuit cards to said corresponding circuit card connectors to establish a plurality of optical pathways between the LED diodes and the photodiodes of the corresponding circuit cards, such that a plurality of independent parallel optical connections between the circuit cards are formed solely through air;

d) generating and transmitting a light from the LED diode of at least one of the circuit cards along the corresponding optical pathway, the light generated from the LED carrying data to be transmitted from the at least one circuit card; and forming an optical pathway between each of said circuit cards;

e) receiving the light transmitted along the corresponding optical pathway by the photodiode of the corresponding circuit card, so as to receive the data carried by the light by the corresponding circuit card forming independent parallel optical connections between said transmitter LED on one of said circuit cards and said receiver photodiode on any one of said circuit cards; and

 f) spatially arranging each of said circuit cards to relative to one another via said common backplane to maintain continuous optical intercard communications between each of said circuit cards when said circuit cards become intermittently dislodged from electrical connection to said backplane, said intercommunications being conducted independent of shock-susceptible wired connectors.

9. (Currently Amended) The method of Claim 8 wherein in steps d) and e) ~~step f)~~, said signal light generated by said ~~first and second transmitter LEDs~~ LED and received by said ~~first and second receiver photodiodes~~ photodiode comprise optically transmitted infrared radiation.

10. (Currently Amended) The method of Claim 8 wherein in ~~step f)~~ said transmission and reception of signals the light transmitted between from said LED to said photodiode ~~first and second transmitter LEDs and said first and second receiver photodiodes~~ comprise a standardized infrared communications scheme protocol.

11. (Currently Amended) The method of Claim 8 10 wherein ~~in step f)~~, said infrared

communications scheme protocol comprises a protocol developed by the Infrared Data Association.

12. (Currently Amended) The method of Claim 10 wherein ~~step f)~~, said ~~first and second~~ circuit cards are housed within an enclosure.

13. (Currently Amended) The method of Claim 8 wherein ~~in step f)~~, said ~~first and second~~ circuit cards are operative to run an embedded application.

14. (Canceled)

15. (Currently Amended) A shock-resistant system for operatively interconnecting circuit cards within a computer system to enable data to be transmitted and received therebetween comprising:

a) a common backplane having a plurality of circuit card connectors disposed in spaced apart relation thereon for supporting circuit cards in a generally upright parallel relationship;

b) at least a first and a second ~~a plurality of circuit cards, each of said first and second circuit cards~~ having ~~an optical communications device~~ a pair of first LED and photodiode and a pair of second LED and photodiode formed thereon, respectively, the first and second LED's being operative to generate and transmit infrared signals which carry data to be transmitted from the first and second circuit cards, respectively, and the first and second photodiode being operative to receive the infrared signal generated by the second and the first LED's, respectively;

c) ~~an~~ a first optical pathway formed between the first LED and the second photodiode, and a second optical pathway formed between the second LED and the first photodiode, each of said circuit cards, each optical pathway forming a respective independent parallel optical connection between said optical communications devices; and

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d) wherein ~~each of said~~ the first and second circuit cards are maintained in fixed relationship to one another, such that the first optical pathway is parallel to the second optical pathway, and the infrared signals are transmitted along the first and second optical pathways independently with each other ~~via said common backplane to maintain continuous optical intercard communications between each of said circuit cards when said circuit cards become intermittently dislodged from electrical connection to said backplane, said intercard communications being conducted independent of shock-susceptible wired connectors.~~

16. (New) The system of Claim 15, wherein the computer system includes a digital camera or a hand-held data collection device.